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ABSTRACT

A description was sought of the types of sources of information about marijuana used by 300 middle class fifth, seventh, and eleventh grade students. During individual meetings with experienced female interviewers, students were asked to relate sources which were most influential in providing information about marihuana at the following stages: (1) awareness; (2) interest; (3) evaluation; (4) trial; and (5) adoption. Sources were categorized by the experimentors as either personal (e.g. parents or friends); impersonal (e.g. television or newspapers); control (e.g. pamphlets or teachers) or noncontrol (e.g. friends or music). The sources of information mentioned most frequently by all students were parents, television, and friends. A number of other findings are presented, among them being a significant shift in types of sources reported as students grew older. Most interesting was the finding that two-thirds of all students surveyed at all grade levels were not actively interested in marihuana. (Author/BW)

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Drug Abuse Center Research Grants Program

National Institute of Mental Health

Final Report Summary

July 31, 1972

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Ways Youth Receive Information About Marihuana

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Without their willingness to risk the political, financial and legal consequences of participating in research which gathered "in depth" information on marihuana use, the study would not have been possible.

Abstract

The major finding of this study was a significant shift in types of sources of information about marihuana reported as we progressed from elementary to secondary schools in interviews with 300 randomly selected 5th, 7th and 11th grade students.

Fifth-grade students receive much of their information from socially approved sources (e.g. parents, TV), seventh graders appear to be in a transition stage between the sources usually used as vehicles for socially approved information and the "private" sources (e.g. friends) used by 11th grade students.

Most important was the indication that students may be largely unaware of the personal influence process which seems to surround decisions to use marihuana.

A description of the diffusion-adoption of marihuana through various information sources at different ages is discussed. Suggestions for future experimental research and drug abuse programs are included.

SUMMARY

1. Number and Title of Project.

RO3 MH 20595 (6/71-7/72) WAYS YOUTH RECEIVE INFORMATION ABOUT MARIHUANA

2. Project Objectives.

a. The Problem. In 1971 the Federal Communications Commission limited the perrogatives of the Broadcasting Industry in program material which delt with drug abuse. The Commission was presumably reacting to social concern that program material such as contemporary music was encouraging the use of illegal drugs among young people. Implicit in the action of the Commission was the assumption that the mass media contributed to the abuse of drugs by youth and that by restricting the media drug abuse would be somehow diminished.

The research activity reported here grew from a discussion between the principal investigators concerning the validity of this assumption. Our search of relevant social science research turned up very little useful evidence to confirm or deny

the role of the mass media in influencing decisions to use illegal drugs.

This problem is part of a larger question; how is illegal information disseminated in society? Previous social science research and theory has dealt with the dissemination of "innovations" which have been defined as useful and novel change which leads to a "better way" (c.f. Rogers, 1962). Examples of the innovations considered in such research are the use of corn hybrids by farmers and the change to assembly line production techniques in industry. We were left with the knowledge that increasing numbers of young people were deciding to use illegal drugs such as marihuana and that their awareness of the drug and its properties must have resulted from some dissemination process. The questions we asked ourselves were: "How do young people receive information about drugs?" and "Does the dissemination of information about drugs to young people follow similar channels as the dissemination of information about innovations to the society as a whole?".

Previous research on the dissemination of innovative practices in society has also been concerned

with the ways people decide to accept or reject an innovation. In this framework we were specifically interested in determining which sources of information were influential in a young person's decision to use or reject the use of marihuana. Evidence from polls (e.g. Gallup, 1972) indicates that the use of this drug has increased dramatically among young people over the past 5 to 8 years. The success of efforts to supply information about marihuana to young people depend, in great part, on valid sources of knowledge about the sources of information and influence they commonly select.

Rogers (1962) identifies five steps in the process of disseminating an idea and assignes each to a position in a linear sequence. Awareness, the first stage, implies that one is exposed to the innovation but lacks adequate or comprehensive information about the new practice. In the second or interest stage, an individual seeks information to fill out his conception of the innovative behavior. The evaluation stage follows information search and leads to either rejection or trial adaption. During the trial stage, the person tests his reactions to actual experience with the innovation and if he finds it beneficial moves into the

adoption stage, that is, a decision is made to continue practicing the innovative behavior.

Becker (1963) maintains that initially one comes in contact with marihuana by chance and experiments out of curiosity. It would appear that "chance contact" and the "experiment out of curiosity" notions need further elaboration. Katz and Lazarsfield (1964) suggest that an intricate network of interpersonal and mass media communication channels exist to provide contact with information about social and personal behaviors. It would seem that at various stages in experience with marihuana one or both types of communication might be effective in supplying information or reinforcing behaviors, although present speculation and research data conflict.

The results of research indicates that users of marihuana are influenced more by interpersonal influences. Goode (1969) found that 73% of those who had tried marihuana had their first experience with at least one individual who had already used the drug. Similarily, Schaps and Saunders (1970) found that in 33 out of 38 subjects studied, the first experience with marihuana was with at least

one close friend who provided him with information on techniques of use and information to help identify and enjoy the effects. Phillips (1970) found that 99% of those individuals who had tried marihuana had friends who also had used. Only 69% of those who had decided not to try had friends who had used the drug. Grinspoon (1971) argues that marihuana users are influenced and reinforced by peer group members. In turn, he suggests, the use of marihuana tends to strengthen group identity and boundries.

A more popular view suggests that marihuana use can be attributed, in part, to the influence of various contemporary mass media fare such as television, movies, books, magazines and especially "popular" music. There is a lack of research evidence to directly support the view that these impersonal sources of information lead to marihuana use although a recent review of television research by Atkin et al. (1971) indicates that social behaviors can be learned by television viewing.

Acceptance of an information source may depend on two primary factors: first, the age of the young

person and second, the prestige and saliency of the information source.

Gessell et al. (1956) describes the fifth-grade child as generally holding deep respect for teachers and parents. Garrison (1965) found that mass media was also very important to children from an early age.

As children grow older, however, there is an observable tendency to move away from parents and the adult world in general. Adolescents from 12 to 16 are more easily influenced by non-parental, non-adult information sources (Strong, 1967) and the amount of time they spend with mass media generally diminishes (Ilg and Amen, 1966). Gessell et al. (1956) found that at age 12 boys and girls are very interested in knowing how their peers think and feel. The 12 year old demands less parental and teacher guidance and becomes more admiring of friends and older siblings than the 10 year old. This tendency increases in strength throughout adolescence (Burke, 1970). As the adolescent switches from parental to peer influence, there is a tendency to challange all "established" authority or control sources

(Garrison, 1965). Burke (1970) suggests that the popular adolescent wish to "...do my own thing" expresses the need to exchange the socially approved control sources important at younger ages for the less established influences of peers and certain mass media.

Tapp and Kohlberg (1971) in a discussion of the development of a sense of justice in young people provide a useful definition of control sources. They suggest that vehicles of control provide "...active support of the...rules or authority in a society." (p. 69). Control sources generally provide a single alternative as a solution reflecting status quo rules or authority. Noncontrol sources, on the other hand, would generally provide either one or many "non authority" alternatives.

Also important is a gradual development of more self-reliance with increasing age. Patel and Gordon (1960) found that 5th and 7th grade children were more dependent on others for decisions and value judgements whereas 11th and 12th grade subjects were more independent of others in their decision making. Rogers (1962)

suggests that interpersonal information, which includes the subject's own experience with an innovation, may be important in the diffusion-adoption process but he notes that this has seldom been investigated.

From the research discussed above, it appears that a number of dimensions are important in a study of the sources of information that effect young people's behavior with marihuana:

A. The diffusion and adoption of marihuana information and behaviors may follow a five stage process: 1. awareness; 2. interest; 3. evaluation; 4. trial; 5. adoption

B. The sources of information about marihuana can usefully be divided into personal (peer, parent, teacher, etc.) and impersonal (mass media) sources.

C. Information sources can be further subdivided into control (socially approved, generally advocates one alternative), noncontrol (advocates more than one alternative) and intrapersonal (experimental) sources.

b. The following hypothesis will be tested:

Sources of information about marihuana change with age. Older subjects might be expected to select a) a greater variety of sources, b) more noncontrol and experience sources and c) more personal than impersonal sources.

In addition, the stages of diffusion-adoption of innovation described by Rogers (1962) will be investigated. Specifically, we will describe the frequency of source use at each of the five stages (1. awareness, 2. interest, 3. evaluation, 4. trial and 5. adoption) and describe the relative influence of the control and personal nature of sources on subject's at three age levels (5th, 7th, and 11th grade) at each stage.

c. Revisions in the original objectives. There were no revisions in the proposed objectives which eliminated any promised area or procedure of investigation. After the grant was awarded it was determined that additional data could be collected which would improve the utility of the study. These additions were made and are reported.

3. Project Action.

(a) Subjects. A random sample of 130 5th, 130 7th and 130 11th grade students was drawn from the total population of three schools within the Sacramento, California metropolitan area. The parents of these students were advised by letter that their child had been selected for participation in a study of attitudes towards drugs and that children would be withdrawn from the study if they wished (see Appendix A, Permission Letter). Seven subjects were withdrawn by parents (3 5th, 2 7th and 2 11th graders). Nine of the 390 had moved and could not be located.

Subjects participated without pay and were given the opportunity to withdraw from the study which resulted in one refusal. A 7th grade student who appeared highly anxious withdrew because, he stated, a friend had taken an overdose of a narcotic the previous week. On the days the data was collected 4 5th graders, 5 7th graders and 16 11th graders from the sample of 390 were absent. (See table 1 for a summary of subject attrition.)

Table 1

Source of attrition of original experimental population

Grade	5	7	11
Original Sample	130	130	130
Parents withdrew	-3	-2	-2
Subjects withdrew	0	-1	0
Subjects had moved	-4	-3	-2
Subjects absent	-4	-5	-16
Experimental Subjects	-100	-100	-100
Reserve Subjects	19	19	10

One hundred subjects from each grade level were subsequently chosen for participation in the study. The 48 surplus subjects were not used to protect the subjects who participated. Anonimity was an important factor and the planned reserve of unused subjects allowed every subject the possibility of claiming nonparticipation since the permission letter list included names of all subjects. Only the research assistant knew the names of subjects in the final experimental sample and all lists of subject's names were destroyed immediately following data collection.

The 300 experimental subjects selected at random consisted of 144 females and 156 males. The school district participating in this study serves about

50,000 primary and secondary students from predominantly middle class homes. All subjects were white caucasions which is representative of the population in this district. The 1970 census reports that there are less than 4% non-white residents in this district with orientals compromising the largest minority group (Bureau of the Census, 1971).

(b) Drugs investigated. This study focused on marihuana although some attempt was made to determine the number of different drugs subjects could name.

(c) Type of research. The research is best classified as human psycho-sociological.

Subjects were asked to describe the physical and/or psychological, positive and negative reinforcements received from marihuana use.

(d) Methods; (1) The Interviews. Subjects were interviewed singly in schools. All interviews with subjects from a particular grade were conducted on the same day to prevent contamination by communication between interviewed and uninterviewed subjects. Each subject was informed

of the study through the parental permission letter but were unaware of the specific time of the interview until they individually were called from classrooms. Interview lengths varied from 10 to 40 minutes.

(2) The Interview Schedule. Appendix B, (The Interview Schedule) contains the questions used by interviewers to obtain information from subjects. Questions were presented verbally to subjects by interviewers who were encouraged to remain faithful to the wording of each question. Except where subjects used slang terms for drugs and interviewers repeated the term, all subjects received all appropriate questions.

Questions (Q's) 1, 2, and 3 were designed to determine whether subjects were aware of marihuana. If subjects appeared unaware the interviewers engaged the subject (S) to determine whether he or she was being evasive. Unaware S exited the interview at this point.

Q's 4 and 5 asked for sources of information. Q's 6, 7, 8, 9 and 10 were attempted to determine whether interest in marihuana existed

and with Q's 11, 12, 13, 14, 15, 16, and 17 we sought to determine whether evaluation had occurred and to describe the source(s) of information used in this process. Q's 18, 19, 20, 21, 22, 23, 24, 25, and 26 focused on the trial stage. Sources of influence were obtained for those who decided not to try marihuana. Q's 27 and 28 sought influence sources from those who reported a trial. Q's 29, 30 and 31 concerned decisions to adopt or continue using marihuana for those who had tried the drug.

In addition to the interview schedule the subjects were told a) that they were participating in "a survey of drug use", b) that they had the right to withdraw from the survey at any point and if they chose to withdraw their interview would be destroyed, c) their answers would be kept in complete confidence and d) that they would have an opportunity to see the way their answers were recorded after the interview was concluded. In addition, subjects were asked not to discuss the interview with other students until the end of the day.

(3) The Interviewers. Experimentors made a

decision to employ female interviewers under the untested assumption that subjects might not be as suspicious that these interviewers were narcotics agents or other potentially feared authority figures. Ten females with prior interviewing and or counseling experience were employed. All were students in the School of Social Work at the California State University, Sacramento. Interviewers were paid $2.00 per interview. All interviewers received one week of intensive training in three major areas: 1) Drugs and drug use; 2) The art of interviewing young people; 3) The administration of the interview schedule, including agreements on the coding of ambiguous responses, cues which aid in determining the voracity of subject responses and interview practice through role playing. Interviewers were <u>not</u> informed of the hypothesis or the goals of the research.

(4) <u>Categories of Sources</u>. It was decided that four categories of sources would be most useful in this study:

1. Control sources which were expected to be made up of vehicles for socially approved information. Specifically they were: parents, teachers, ministers, doctors, policemen, television, radio, pamphlets, newspapers, books, and "other" adults.

2. Noncontrol sources which provide "private" information which is generally not socially approved or used as vehicles of disseminating approved information. Those were: movies, music, friends, siblings, and other peers.

3. Personal sources were defined as those involving communicative interaction with another human being. In this study they were: parents, teachers, ministers, doctors, policemen, friends, siblings, other peer, other adult.

4. Impersonal or non-human vehicles for receiving information, i.e. tv, radio, music, pamphlets, newspapers, books, and movies.

The reader will note that the personal/impersonal dimension would correspond to a mass media vs. interpersonal comparison.

The only other source used in this study but not included in the category system described above was actual experience with marihuana which seems to be a potentially interesting source of information about the drug by some subjects.

4. Project Findings.

a) The Interviews. The experimentors held conversations with the interviewers to receive their informal impressions of the interviews. It was generally agreed that: 1) Except for 2 or 3 11th graders, most subjects appeared to respond honestly, 2) Question 26 was asked incorrectly and should be discarded, 3) More time during interviewer training should have been spent in actual interview practice with subjects the same age as those in the study, 4) There was no evidence of contamination

resulting from interaction between subjects already interviewed and potential interviewees, 5) Seventh-grade subjects had been shown a movie on marihuana use during the week preceding data collection. To prevent a distortion of source of information descriptions of all responses from seventh-grade subjects dealing with this movie as a source of information were placed in the "School" category.

b) A Description of the Sources of Information about Marihuana Young People Select at Various Ages. One of the main objectives of our survey was to obtain a complete listing of sources used by the three grade levels for information regarding marihuana. To fulfill this objective a composite of sources mentioned was created by combining the responses to questions 4, 5, 7, 10 and 15 (see Appendix B for a review of the interview schedule). Every source mentioned by a subject was included in the composite and no source was counted more than once for a single subject. The results of this analysis are found on Table 2. Since there were 100 subjects in each grade, the totals are both

a frequency count and a percentage of subjects mentioning that category.

Table 2

Composite of sources of information about marihuana mentioned by grade level[1,2]

Grade	5	7	11	X^2
Source				
Parents	66	61	58	.60
Teacher	7	31	43	24.88**
Minister	2	2	9	A
Doctor	1	4	7	A
Policeman	6	7	5	.34
"School"	19	83	61	37.01**
Movies	5	4	31	35.16
TV	87	65	69	3.31
Radio	13	17	33	17.75**
Music	1	2	14	A
Pamphlets	13	33	34	10.52**
Newspapers	11	28	57	33.81**
Books	14	32	29	7.44**
Friends	41	84	96	22.71**
Drug use	0	9	27	A
Siblings	26	28	16	3.54
Other peer	31	26	47	6.95*
Other adult	27	17	26	2.64

A Fewer than five in one or more cells
** $p < .01$
* $p < .05$

1. Since n=100 in each grade level, frequency is also a percentage.

2. Data was derived from interview questions 4, 5, 7, 10 and 15. No source was counted more than once for each subject.

The only sources mentioned by more than 40% of the students at all grade levels were parents, tv and friends. Results of X^2 analysis comparing the frequency of sources between grade levels indicates that a number of significant changes take place as students grow older.

With increases in grade level there are corresponding increases in the number of students mentioning teachers (X^2=24.88, df=2, $p < .01$), movies (X^2=35.16, df=2, $p < .01$), radio (X^2=17.75, df=2, $p < .01$, pamphlets (X^2=10.52, df=2, $p < .01$), newspapers (X^2=33.81, df=2, $p < .01$), books (X^2=7.44, df=2, $p < .05$), and friends (X^2=22.71, df=2, $p < .01$) as sources of information about marihuana. Sources which appear to remain constant over these grades were parents (X^2=.60, df=2, n.s.), policemen (X^2=.34, df=2, n.s.), television (X^2=3.3, df=2, n.s.), siblings (X^2=3.54, df=2, n.s.) and other adult (X^2=2.64, df=2, n.s.)

It is interesting to note that of all 300 students interviewed only 4% mentioned doctors as sources of information. Correspondingly low totals were obtained for ministers (4.1%) and policemen (6%).

c) Testing the Hypotheses. The first hypothesis suggested that as subjects grew older they would select a greater variety of sources which would be categorized as more noncontrol, experimental and personal than impersonal or control. A rank-ordering of the more popular sources provides some support for this hypothesis. Only those sources mentioned by 40% or more of the students were included. (see table 3.)

Table 3

Rank-order of marihuana information source composite by grade level

Grade	5	%	7	%	11	%
Rank						
1	TV	87	Friends	84	Friends	96
2	Parents	66	School	83	TV	69
3	Friends	41	TV	65	Parents	58
4			Parents	61	Newspaper	57
5					Other peer	47
6					Teacher	43

11th graders mentioned more sources more often than 5th graders. The 2 most popular sources for 5th graders are control sources (tv and parents) whereas the 7th and 11th graders have selected both control (school,

tv) and non-control sources (friends). The ratio of personal and impersonal sources remains the same between the 5th and 11th graders. Two-thirds of the 5th graders most popular sources were personal and although the 11th graders have a greater number of popular sources (6 for the 11th graders vs. 3 for the 5th graders), they also select personal sources (friends, parents, other peer and teachers) as approximately two-thirds of their most popular sources.

It should be noted that the data reported in tables 2 and 3 reveal the range and frequency of sources mentioned by subjects. They do not relate the responses of subjects to the information associated with these sources. Question 15 followed a series of questions which attempted to ascertain subject's knowledge of marihuana and it asked "In what ways did you learn these things about marihuana?. When data from this question are analyzed (see table 4) the results are dramatically different from those presented in tables 1 and 2.

Table 4

Sources mentioned when subjects were asked "In what ways did you learn about marihuana?" by grade level.[1]

Source	Grade 5	7	11	X^2
Parents	45	33	16	13.55**
Teachers	2	13	19	13.12**
Minister	2	0	2	A
Doctor	0	3	1	A
Policeman	2	3	2	A
"School"	8	58	19	50.13**
Movies	2	2	5	A
TV	66	39	20	25.65
Radio	5	8	7	0.71
Music	1	0	0	A
Pamphlets	4	21	16	8.92
Newspaper	6	14	19	6.62
Books	7	10	13	1.8
Friends	13	40	57	26.86**
Drug use	0	9	26	8.26[B]
Siblings	14	16	4	7.29*
Other peers	11	7	29	17.94**
Other adults	15	6	13	3.95

A Fewer than 5 in one or more cells.
B Based on 7th and 11th grade only.
** $p < .01$
* $p < .05$
1 Questions 15 on the interview schedule.

Contrasting with the data presented in table 2, no sources were mentioned by more than 40% of the subjects at all grade levels.

Results of Chi-square analysis indicates more differences from the composite analysis in table 2. When students were asked where they learned the information they possessed about marihuana, there was a significant decrease from 5th to 11th grade in those mentioning learning from parents (X^2=13.55, df=2, $p < .01$), and tv (X^2=26.25, df=2, $p < .01$). Significant increases were found between the 5th and 11th grades for those mentioning learning from teachers (X^2=13.12, df=2, $p < .01$), newspapers (X^2=6.62, df=2, $p < .05$) and friends (X^2=26.86, df=2, $p < .01$).

Doctors, policemen, ministers, movies and music were seldom mentioned by subjects at any of the grade levels.

Sources obtained and displayed in table 4 were rank ordered (see table 5). Only those sources mentioned by 25% or more of the subjects are listed.

Table 5

Rank-order of sources by grade level obtained when subjects were asked "In what ways did you learn these things about marihuana?"[1,2]

Grade	5	%	7	%	11	%
Rank						
1	TV	66	Schools	58	Friends	57
2	Parents	45	Friends	40	Other peer	29
3			TV	39	Using Marihuana	26
4			Parents	33		

[1] Only sources mentioned by 25% or more of subjects within a grade level are displayed.

[2] Data derived from answers to Question 15 in interview schedule (appendix B).

Seventh-grade sources remain essentially the same as those reported in Table 3. Fifth and Eleventh-grade subjects, however, appear to use fewer and different types of sources for learning factual and evaluative information about marihuana than those they previously (Table 3) mention as available. In the 5th grade friends are a significant source of information (Table 3) but not an important vehicle for gathering facts or making evaluations(Table 5). It appears as if 5th graders are using personal control (parents) and

impersonal control (tv) sources but rejecting personal noncontrol sources (friends) when evaulation and fact gathering occurs. Eleventh graders, on the other hand, reject control sources (tv, parents, newspapers, and teachers) in favor of personal noncontrol sources (friends, other peer and using marihuana).

Additional analysis comparing the use of impersonal control, personal control and personal noncontrol sources by grade levels are presented in Table 6.

Table 6

Personal by control analysis
For data reported in Table 4[1]

Source	Grade 5	7	11	X^2
Impersonal Control	68	71	34	14.67**
Personal Control	53	57	44	1.73
Personal Noncontrol	33	49	57	6.45*

**p < .01
* p < .05

[1] df=2 for each X^2 analysis.

The data in Table 6 indicate that impersonal control sources decrease significantly (X^2=14.67, df=2, $p < .01$) and personal noncontrol sources increase significantly (X^2=6.45, df=2, $p < .05$) as we move from the 5th to the 11th grade. The reported influence of personal control sources remains unchanged across grade level.

Control may be the most important variable. The lower grades apparently seeek out control messages when seeking facts and evaluation. The upper grades tend towards noncontrol messages. An analysis of responses categorized by control and non control sources provides further post hoc evidence for the control by grade interaction (see Table 7).

Again the mentioning of control sources decreases significantly from 5th to 11th grade subjects (X^2=14.22, df=2, $p < .01$) and noncontrol source responses increase from the 5th to the 11th grade. It is interesting to note that 7th graders tend to make the greatest use of both control and noncontrol sources (X^2=6.51, df=2, $p < .05$). This may indicate that the

7th grade is a transition point in the switch from control sources for younger students to noncontrol sources for older students.

Table 7

Frequency[A] of control and noncontrol sources mentioned

Source	Grade 5	7	11	X^{2B}
Control only	60	45	25	14.22**
Noncontrol only	9	9	24	10.72**
Both	25	42	33	6.51*

A
Response to Question 15 (cf. Table 4).
B
df=2 for each X^2.
** $p < .01$
* $p < .05$

When subject responses were categorized by personal and impersonal sources by Grade, results very similar to those reported in Table 7 are produced (see Table 8).

An interaction between grade level and source category is obvious. The mention of personal sources <u>increase</u> significantly from 5th to 11th grade ($X^2=9.88$, df=2, $p < .01$) and impersonal source responses <u>decrease</u> significantly from

the 5th to 11th grade (X^2=10.97, df=2, p< .01); And the transitional 7th graders mention both categories more (X^2=8.44, df=2, p< .05).

Table 8

Frequency[A,B] of personal and impersonal sources mentioned

Source	Grade 5	7	11	X^2
Personal only	25	25	48	9.89**
Impersonal only	25	18	7	10.79**
Both	44	53	27	8.44*

[A] Responses to Question 15 (cf. Table 4).

[B] df=2 for each X^2.

** p<.01

* p< .05

Summary of the Test of Hypothesis 1. In summary, hypothesis 1 is tentatively con-confirmed. Subjects reported using more sources in 11th than in 5th or 7th grade and a three way interaction was found between grade level, personal/impersonal and control/ noncontrol sources. As we moved from 7th to 11th grade the reporting of impersonal and control sources decreased significantly and the use of personal, noncontrol sources of factual

and evaluative information about marihuana increased. Discussion of these results and other findings can be found in the next section, 4.d.

The Diffusion-Adoption Process. Next we attempted to describe the different stages of marihuana diffusion with these subjects. Sources were catagorized as personal/impersonal or control/noncontrol and we looked for interactions between source category and grade level at each stage in the process.

In response to Question 1, 31 5th, 68 7th and 91 11th graders mentioned marihuana as a "drug". When those not mentioning marihuana were asked "Do you know any drugs which are smoked?" (Question 2) 14 5th, 12 7th and 8 11th graders responded "marihuana", indicating awareness. The remaining subjects were asked "Have you heard of marihuana?" (Question 3), 4 5th and 1 11th grader answered affirmatively. Only 1 subject, a 5th grade female, was unaware of marihuana and exited from the interview after Question 3.

The first assumption to be tested was the expectation that students would become aware of marihuana through both personal and impersonal sources. Subjects were asked where they first heard about marihuana and their responses are reported in Table 9. In an attempt to reduce errors in recall for older or "more aware" subjects, we asked them to "think back, try to remember the very first time you heard about it...".

Table 9

Responses to Question 4, "Where did you first hear about marihuana?" by grade level

Source	Grade 5	7	11	Total
Parents	17	10	3	30
Teacher	0	5	5	10
Minister	0	0	0	0
Doctor	0	0	0	0
Police	0	0	0	0
"School"	3	12	13	28
Movies	0	0	0	0
TV	47	15	9	71
Radio	0	1	2	3
Music	0	0	0	0
Pamphlets	1	2	0	3
Newspaper	2	4	9	15
Books	2	0	0	2
Friends	6	29	40	75
Drug Use	0	0	0	0
Siblings	9	7	4	20
Other peers	9	8	11	23
Other Adults	1	1	2	4

Grade/Source totals were not large enough to permit meaningful X^2 analysis on most items. It appears as if friends and television, were mentioned most frequently by all subjects. These sources have been categorized as personal (friends) and impersonal (tv) which gives support to the hypothesis, though caution should be excercised in interpreting the responses of the 11th graders. It is possible that they could not or did not remember their "first aware" source. Where the friends and tv categories are analized further an interaction (X^2=55.73, df=5, $p < .01$) between source and age emerges (see Table 10).

Table 10

Source of "first" awareness of marihuana by grade level, tv, and friends.[1]

Grade	5	7	11
TV	47	15	9
Friends	6	29	40

[1] Taken from Question 4.
X^2=55.73, df=5, $p < .01$

TV received more mentions by the 5th and fewer by the 11th graders while the reverse was found for friends as a source of awareness.

Mass media received more mentions by 5th and fewer by 7th and 11th graders while personal sources received fewer responses from 5th graders and more from 7th and 11th grade subjects (X^2=21.34, df=5, $p < .01$).

When control vs. noncontrol sources were compared by grade level (Table 11) a

Table 11

Source of "first" awareness of marihuana by grade level, control and noncontrol sources[1]

Grade	5	7	11
Source			
Control	70	38	30
Noncontrol	24	44	55

[1] Taken from Question 4.
X^2=31.86, df=5, $p < .01$

significant interaction between control and noncontrol sources occurs across grade level. Control sources are used by more younger than older students but noncontrol sources are mentioned more by older than younger students (X^2=31.86, df=5, $p < .01$).

A similar interaction was obtained when

impersonal and personal sources were compared by grade level (see Table 12). Fifth graders mention impersonal sources more than 7th or 11th graders and personal sources are mentioned more by 7th and 11th than 5th grade subjects (X^2=23.95, df=5, $p < .01$).

Table 12

Source of "first" awareness of marihuana by grade level with impersonal and personal sources[1]

Grade	5	7	11
Source			
Impersonal	52	22	20
Personal	42	60	65

[1] Taken from Question 4.
X^2=23.95, df=5, $p < .01$

Active student interest in marihuana was assessed from responses to Question 6, "Have you ever looked for information about marihuana?" Most interesting is that only 107 subjects indicated active interest and a comparison of interest by grade level (see Table 13) provided no significant difference between

grades in actively seeking marihuana information. This finding will be discussed in more detail in the next section.

Table 13

Student Interest: Responses to "Have you ever looked for or asked for information about marihuana?" by grade level[1]

Grade	5	7	11
Response			
Yes	24	36	37
No	75	64	63

[1] Question 6.
$X^2=4.57$, df=5, n.s.

The subjects who did take an active interest in marihuana tended to seek evaluative information from parents and friends (see Table 14). Fifth graders selected a personal control source (parents) more than 11th graders who mentioned a personal noncontrol source (friends). Seventh graders are divided between the two categories of source which reinforces the notion that they are in a "source transition" stage, i.e. from control

to noncontrol sources.

Table 14

Frequency of parents and friends mentioned as sources of evaluative information by grade level[1]

Grade	5	7	11
Source			
Parents	16	17	2
Friends	7	17	19

[1] Question 10 ("Where did you go to look for information?").

Next we asked the students to give us their assessment of the credability of the sources they used while evaluating marihuana (see Table 15).

Important for the study was the finding that 5th graders thought their parents were most accurate. Seventh graders were equally divided between parents and friends as their most frequently mentioned accurate sources; with books, pamphlets and teachers following closely. Friends and parents were thought inaccurate. This mixture of responses is an additional indication that the 7th grade is in a transition between sources of information

and behaviors. Eleventh grade students mentioned friends as accurate and inaccurate sources most frequently although the predominant tendency is towards accurate information from friends.

Table 15

Analysis of question "Do you think (source) was relaying accurate or inaccurate information?" by grade level.[1]

Grade	5			7			11		
Question	N=47			N=7			N=52		
	A[2]	I	B	A	I	B	A	I	B
Parents	20	2	1	16	5	3	2	0	0
Teacher	1	0	0	11	0	0	5	0	2
Minister	0	0	0	1	0	0	0	0	0
Doctor	0	0	0	0	0	0	1	0	0
Policeman	2	0	0	1	0	0	3	1	0
School	2	0	0	5	3	0	4	[illegible]	4
Movies	0	1	0	0	0	0	0	0	0
TV	1	0	1	1	0	0	0	0	1
Radio	0	0	0	0	0	0	0	0	0
Music	0	0	0	0	0	0	0	0	0
Pamphlets	4	0	0	10	1	1	6	2	0
Newspaper	0	0	0	1	1	0	3	1	0
Books	6	2	0	11	2	0	6	3	2
Friends	6	2	0	16	6	1	20	6	1
Using marihuana	0	0	0	0	0	0	2	0	0
Siblings	8	1	0	7	1	0	6	0	0
Other peer	2	1	1	2	2	1	3	1	0
Other adult	5	0	1	2	0	0	6	0	0

[1] Question 11.

[2] A=accurate
I=inaccurate
B=both accurate and inaccurate

Emphasis should be placed on the fact that only 2 eleventh grade students even mentioned parents. It may be telling that these subjects avoid making credability judgements about the evaluative information they receive from their parents.

Only 11 students thought only good reasons existed for using marihuana (see Table 16). The remaining sentiment seemed to be equally divided between "Both good and bad reasons" and "only bad reasons".

Table 16

Student evaluation of marihuana

	Grade	Grade	Grade
"Do you think there are good and bad reasons for using marihuana?"	5	7	11
Both	48	52	57
Only good	0	3	8
Only bad	51	45	35

There was no diffence between grade levels when the number of students who thought there were "only bad" reasons for using marihuana were compared with those who thought there was both good and bad reasons (see

Table 17; $X^2=3.73$, df=5, n.s.). Grade level, it seems, does not predict the evaluative responses of students in these two categories, though as Table 16 illustrates, more 11th than 5th graders thought there were "only good" reasons for marihuana use.

Table 17

Comparison of number of students responding "only bad" vs. "both good and bad" when asked for conclusions about reasons for marihuana use

Grade	5	7	11
Reasons			
Both good and bad	48	52	57
Only bad	51	45	35

$X^2=3.73$, df=5, n.s.

Since subjects were allowed to make multiple responses to Question 15, which asked about sources used during evaluation, the data presented in Table 18 must be interpreted carefully.

Sources which our subjects thought were pro or both pro and con were the type we have categorized as personal noncontrol (friends

and other peer) whereas personal and impersonal control sources (eg. parents and television) tended to be anti-marihuana (cf. Table 18).

Table 18

Selected sources of evaluation and "pro or con" nature of selected sources by grade level

"Which of these (sic) sources were anti-marihuana, which pro and which both pro and anti?"

Grade	5			7			11		
Sources	(A)[1]	(P)	(B)	(A)	(P)	(B)	(A)	(P)	(B)
Parents	44	0	0	30	0	0	15	0	0
Television	54	1	7	32	1	3	15	0	0
Newspapers	4	1	0	10	1	3	16	0	0
Friends	10	0	3	12	12	14	6	29	3
Siblings	10	2	1	8	5	1	1	3	1
Other peer	4	6	1	0	2	2	5	14	1

[1] (A)=anti marihuana
(P)=pro marihuana
(B)=both anti and pro

The last interview question seeking evaluative information asked, "What is your overall feeling about marihuana?" produced the responses listed in Table 19.

Table 19

Frequency of responses concerning approval, disapproval and undecided about marihuana by grade level[1]

Grade	5	7	11
Response			
Approve	1	14	47
Disapprove	91	67	42
Undecided	7	19	11

[1] Question 17.

The next series of questions concerned the students' trial experiences with marihuana. When asked "Have you ever had the opportunity to try marihuana?" (Question 19) the older students responded positively more often than younger students (see Table 20). Similar results were obtained when students were asked whether they had actually tried marihuana (Question 20, see Table 21). When asked if they would try if given an opportunity, a number of students interested in trial emerged (see Table 22).

Table 20

Frequency of responses to "Have you ever had the opportunity to try marihuana?" by grade level[1]

Grade	5	7	11
Response			
Yes	19	51	88
No	80	49	12

[1] Question 19.

Table 21

Frequency of responses to question "Have you ever tried marihuana?" by grade level[1]

Grade	5	7	11
Response			
Yes	0	20	52
No	99	80	48

[1] Question 20.

Table 22

Frequency of responses by those who have not tried marihuana to "Would you try...if given a chance?" by grade level[1]

Grade	5	7	11
Response			
Yes	5	10	8
No	94	69	40

[1] Question 21.

Table 23 presents an analysis of the sources of information used at the trial stage. Responses are broken down to reveal differences between those 7th and 11th grade students who tried and decided not to try marihuana.

Table 23

Analysis of sources used by 7th and 11th grade students who tried and those who decided not to try marihuana.[1]

Grade	7				11			
Status	Trial		No trial		Trial		No Trial	
Number - %	20[2]	%[3]	80	%	52	%	48	%
Source								
Parents	2	10	31	39	7	13	9	19
Teacher	5	25	8	10	9	17	10	21
Minister	0	0	0	0	0	0	2	4
Doctor	3	15	0	0	1	2	0	0
Policeman	0	0	3	4	0	0	2	4
School	9	45	49	61	2	4	17	35
Movies	1	5	1	1	3	6	2	4
TV	5	25	34	42	8	15	12	25
Radio	0	0	8	10	4	8	3	6
Music	0	0	0	0	0	0	0	0
Pamphlets	4	20	17	21	8	15	8	17
Newspaper	2	10	12	15	6	12	18	27
Books	2	10	8	10	6	12	7	15
Friends	8	40	32	40	33	63	24	50
Using marihuana	9	45	0	0	26	50	0	5
Siblings	4	20	12	15	0	0	4	8
Other peer	0	0	7	9	14	27	15	31
Other adult	0	0	6	8	5	10	8	13

[1] Taken from Questions 15 and 20.

[2] Number indicates total subjects responding. Subjects were allowed multiple responses.

[3] % were computed using the total number of subjects who fell in either the trial or no trial category for a particular source.

A rank order of percent of sources mentioned by students who try marihuana and those who do not is presented in Table 24. Here 7th graders are mixing

Table 24

Rank-order of percent of sources by trial, status and grade.[1]

Grade	7				11			
Status	Trial		Non-Trial		Trial		Non-Trial	
Rank								
1	Personal experience	45	School	61	Friends	63	Friends	50
2	School	45	TV	42	Personal experience	50	School	35
3	Friends	40	Friends	40	Other peer	27	News-paper	27
4	Teachers	25	Parents	39			TV	25
5	TV							

[1] Based on data taken from answers to Question 15 and 20.

[2] Percent of subjects within the column mentioning source. Subjects were allowed to mention more than one source.

personal and control sources regardless of trial status. Eleventh grade trial subjects, however, use personal noncontrol sources and no-trial students mix personal noncontrol and impersonal control sources.

When personal and impersonal sources are compared by grade level (Table 25) differ-

ences appear between grade level but not within grade levels. The 11th graders mentioned more personal sources than the 7th grade students irrespective of trial or no-trial status. Nearly the same finding was obtained for impersonal sources although the no-trial 7th graders mentioned more impersonal sources than all other subjects. Seventh graders also mention using both personal and impersonal sources more than 11th graders regardless of trial status.

Table 25

Analysis of personal and impersonal source use[1] by trial and no-trial 7th and 11th grade subjects.

Grade	7		11	
Status	Trial N=20	No-trial N=60	Trial N=80	No-trial N=48
Source				
Personal only	25[2]	25	50	45
Impersonal only	5	21	6	8
Both	55	52	25	29

[1] Taken from Questions 15 and 20. Subjects were allowed multiple responses.

[2] Percentage.

A similar analysis using control and non-control sources is presented in Table 26. The importance of the control variable is

Table 26

Analysis of control and noncontrol source use by trial and no-trial 7th and 11th grade subjects.[1]

Grade	7		11	
Status	Trial N=20	No-trial N=80	Trial N=52	No-trial N=48
Source				
Control only	30	49	13	38
Noncontrol only	10	9	35	12
Both	45[2]	41	33	33

[1] Taken from Questions 15 and 20.

[2] Percent.

again evident, i.e. in this context it is a potentially significant predictor of trial when combined with grade level. Seventh and 11th grade subjects who have tried marihuana mention noncontrol sources more frequently than nontrial students although there is a tendency for 7th graders to use both kinds of sources more frequently than the 11th graders. An interesting finding was that 7th graders who have tried the drug use more control than non-

control sources and more of both sources combined than any other type of student.

The diffusion process is punctuated by a series of decisions. It may be considered linear to the extent that the decision to adopt the "innovation" climaxes the process. Presumably no one adopts marihuana without trial and not everyone who tries the drug will adopt or continue using it. Questions 29 to 34 were attempts to determine which of the students who had tried marihuana would be continuing users and who would discontinue use after trial.

First we asked, "Would you try marihuana again if you had the chance?" (Question 29) and found a number of 7th and 11th graders either willing or undecided (see Table 27). This number is less than those who tried (cf. Table 20) and the attrition continued when we asked, "Do you feel that you use marihuana on a regular basis?" (Question 32) and "Would you use marihuana on a regular basis if you had the opportunity?" (Question 33). The responses to these two questions are

provided in Table 28. It was decided that only those subjects who indicated an interest in or actual behaviors indicating regular use should be considered adopters.

Table 27

Responses to "Would you try marihuana again...?" by grade level.[1]

Grade	7	11
Response		
Yes	11	32
No	5	12
D.K.	4	6

[1] Question 29.

Table 28

Frequency of adoptors and potential adoptors by grade level.[1,2]

Grade	7		11	
	Adopters	Potential Adopters	Adopters	Potential Adopters
Frequency	3	7	11	18

[1] Data taken from Questions 33 and 34.

[2] None of the 5th graders considered themselves adoptors or potential adoptors.

The sources of information used by these adopting or potentially adopting (hereafter called "continuing users") marihuana and those discontinuing use are offered in Table 29 (potential adoptors are those answering Yes to Question 29 and No to Question 32 and 33).

Table 29

Sources mentioned by continuing (Yes) and non-continuing (No) users.[1]

Grade	5			7			11			
Status	Yes	No		Yes		No	Yes		No	
N - %	0 (n=99)	%		(n=10)	%	(n=90)	%	(n=29)	%	(n=71) %
Source										
Parents	-	45	45	1	10	32	36	2	7	14 20
Teacher	-	2	2	1	10	12	13	4	14	15 21
Minister	-	2	2	0	0	0	0	0	0	2 3
Doctor	-	0	0	1	10	2	2	0	0	1 1
Policeman	-	2	2	0	0	3	3	0	0	2 3
School	-	8	8	2	20	56	62	1	3	18 25
Movies	-	2	2	3	30	0	0	2	7	3 4
TV	-	66	66	1	10	38	42	5	17	15 21
Radio	-	5	5	0	0	8	9	3	10	4 6
Music	-	1	1	0	0	0	0	0	0	0 0
Pamphlets	-	4	4	0	0	21	23	3	10	13 18
Newspaper	-	6	6	0	0	14	16	2	7	17 24
Books	-	7	7	1	10	9	10	1	3	12 17
Friends using Marihuana	-	13	13	2	20	38	42	21	72	36 51
	-	0	0	8	80	1	1	17	59	9 13
Siblings	-	14	14	1	10	15	17	0	0	4 6
Other peer	-	11	11	0	0	7	8	8	28	21 30
Other adult	-	15	15	0	0	6	7	2	7	11 15

[1] Question 15.

A rank-order of percent of sources important at the adoption stage by continuing and non-continuing students (see Table 30) indicates that continuing 7th graders are relying almost entirely on experience with marihuana when they make their decision to continue use. Continuing 11th graders, on the other hand, mention the influence of friends predominantly plus experience with the drug.

Table 30

Rank-order percent of sources important at the adoption stage for continuing (Yes) and non-continuing (No) subjects[1,2]

Grade	7				11			
Status	Yes		No		Yes		No	
N	10	%	90	%	29	%		%
Rank								
1	Using marihuana	80	School	62	Friends	72	Friends	31
2	Movies	30	TV	42	Using marihuana	59	Other Peer	30
3	School	20	Friends	42	Other peer	28	School	25
4	Friends	20	Parents	36			TV	21
5			Pamphlets	23			Teacher	21
6							Parent	20

[1] Data taken from Question 5.

[2] Fifth grade data not included because no comparisons within grade were possible.

Non-continuing students mix personal and impersonal control and noncontrol sources. The 11th grade non users mention friends and other peers most often compared with schools, tv, friends and parents for the 7th grade noncontinuing students.

Additional analyses were performed to uncover the character of the marihuana experience for student continuing users. Marihuana effects were categorized as positive, negative, both positive and negative and neutral by the students. These effects categories were compared with cources including control, non-control and both control and noncontrol. The results of the analysis are in Table 31 and Table 32.

Table 31

Character of experience for continuing users

Grade		
Effects	7 N=10	11 N=20
Positive	8	22
Negative	0	2
Both	0	2
Neutral	2	3

It is easily observed from Table 31 that the experience of continuing users is predominately favorable.

Table 32

Analysis of effects by source for continuing users

Source	Positive	Negative	Both	Neutral
Grade 7				
Control	3	0	0	0
Noncontrol	1	0	0	0
Both	1	0	0	2
Grade 11				
Control	3	0	0	0
Noncontrol	11	0	0	1
Both	3	2	1	2

The number for the seventh grade is too small to permit comment, but for the eleventh grade the predominate combination is noncontrol-positive. This supports Becker's (1963) contention that continuing users would select noncontrol sources and experience pleasurable effects.

(d) Discussion of Results. The research presented here is descriptive in nature. The results of such research are tentative at best and are presented to assist other

researchers in this area. We feel that we would be remiss, however, if we did not a) provide a capsule of our findings in "prose" fashion; b) suggest further research as a result of our findings; and c) make suggestions which may be useful to ongoing drug abuse programs based on the results of this study. This section is devoted to those three ends.

A review of the findings: This study sought to describe the types of information sources used by 300 middle class 5th, 7th, and 11th grade students in various stages of acquaintance with marihuana. During individual meetings with experienced female interviewers, students were asked to relate sources which were most influential in providing information about marihuana at the following stages: 1. awareness; 2. interest; 3. evaluation; 4. trial; 5. adoption. Sources were categorized by the experimentors as either personal (e.g. parents or friends), impersonal (e.g.

tv, or newspapers); control (e.g. pamphlets or teachers) or noncontrol (e.g. friends or music).

A capsule description of the study results is presented in Table 33.

Table 33

Capsule review of study results

Predominant sources for all grades all stages: tv, parents, friends				
Grade level		5th grade	7th grade	11th grade
Sources selected for learning		tv parents	friends tv	friends peer
First awareness sources		mass media	personal	personal
Interest		No difference between grade levels Most (2/3) not actively interested		
Evaluation		personal control	mixed	noncontrol personal
Most credible		parents	parents	friends
Trial	yes	-	mixed	mixed
	no	control	mixed	mixed
Adoption	yes	-	experience with drug	noncontrol
	no		control	personal mixed
Reasons for using			psych. pleasure	psych. pleasure social pressure
Not using		phys. pain	phys. pain	phys./psych. pain

The sources of information mentioned most frequently by all students were parents, television and friends.

When students were asked where they learned what they know about marihuana, however, the 5th graders mentioned tv and parents, the 7th grade students friends and tv and the 11th graders responded friends and other students.

Although students have many sources of information about the drug, they actually mention using different sources at different ages for learning. Younger children use more socially approved sources. The 7th graders use a mixture of sources and the 11th grade students use personal noncontrol or "non authority" sources.

Most interesting was the finding that 2/3 of all students surveyed at all grade levels were not actively interested in marihuana.

The majority appear to be passive receivers of information about the drug.

When asked which sources relayed the most accurate information about marihuana 5th graders said parents, 7th graders mentioned parents and friends, and 11th graders trusted their friends more than any other source.

When students had the opportunity to try marihuana they again mention influences from different sources at different ages. None of the 5th graders had tried the drug and all reported using control sources (e.g. parents, teachers, tv). 7th graders use a mixture of sources at this point -- presumably they are in a "transition stage" in marihuana use and their types of sources they select for information. Eleventh-graders who have tried the drug, however, report using "friends"

and others their age as primary sources. Non users at this grade level use many different types of sources.

One of the major findings of this study was a significant shift in types of sources reported as students grew older. Younger (5th grade) students are receiving much of their information from socially approved sources. Seventh graders begin to mix socially approved with personal and "private" sources in their transition to the nearly exclusive reliance on the friends mentioned by the 11th graders who try marihuana.

Since most of the students report very little active interest it is possible that they are "passive" receivers of social and personal influences regarding marihuana and its use. A related finding suggests that most of the

7th and some 11th graders who use marihuana may be largely unaware of this influence process. When asked for their sources of information and reasons for using the drug, they tend to cite pleasurable "psychological" experiences with marihuana rather than personal influence processes.

Similarily, reasons given for not using the drug by all students relate to their expectation of physical pain, rather than psychological discomfort or social-legal restraints.

Suggestions for future research. The study reported here was primarily descriptive. Results indicate the need for experimental investigation of the control, personal and grade variables. We suspect that learning about marihuana (and perhaps other drugs) is a function of an interaction between those three

factors. We would expect main effects (increased learning) with an increase in grade but not from the control or personal dimensions. However, two and three way interactions could be expected between grade level on the one hand and the personal control dimensions on the other.

In addition, not all data collected in this study was within the scope of this report. Investigators wishing to make further analysis of our data are encouraged to write either of the principal investigators. We will provide copies of the data deck and other necessary information at the cost of duplication and mailing.

Suggestions for drug abuse programs. Most important for drug abuse program planning we believe was the finding that many potential and actual users of marihuana appeared unaware of the

social and personal influence process surrounding decisions about marihuana use. Many drug education programs rely on efforts to provide information to young people through a variety of media about marihuana but very few have focused on personal influence processes.

We suggest that a pilot project attempt to make students more aware of personal and social pressures which serve to push them towards marihuana use by providing them with 1) personally satisfying ways of responding to such pressure, 2) ways of tolerating conflicting claims about drugs and drug abuse, and 3) information seeking behaviors which will widen the range of sources they survey before decisions are made at different stages in their learning about drugs.

Personal influence process training would be most helpful for the

"transitional" 7th graders. Seventh grade students may profit most from training to tolerate conflicting claims about drugs, and the 5th graders appear to need preparation for the great increase in the types of influences they will encounter in the future.

5. Project Significance.

(a) Some descriptive evidence has been offered for the operation of the diffusion-adoption process with marihuana. It appears that "active" interest is not necessary for evaluation, trial and adoption.

(b) Suggestions are offered for components in drug abuse programs based on the training of young people to accomodate personal and private influences relating to drug use.

(c) Specific suggestions are made for

further research on the influence process with 3 variables: grade level, control/noncontrol sources, and personal/impersonal sources hypothesized to influence the learning about drugs by young people.

6. Project Information Dissemination.

News releases are currently being prepared by the experimentors on the results of their study. An article on the implications of the results for drug abuse programs is being prepared for the Drug Abuse News for Educators newsletter. A paper outlining the communication implications has been accepted for presentation to the Speech-Communication Association. Articles are being outlined for the Public Opinion Quarterly and the Journal of Communications.

7. We are not aware of the use of our specific procedures by any other investigators.

8. Under the conditions of our agreement with the school system cooperating in this research

The names of the participant students and system cannot be released. None of this information is included in this report.

9. We received the full cooperation of M.I.M.E. officials on all requests for information and assistance during this project.

10. We have no additional comments.

11. The above answers were provided jointly by the principal investigators Dr. Albert Kowitz and Dr. Richard Clark. The conclusions and errors are ours and should not be attributed to any other individual including the sponsoring agencies.

The principal investigators can be reached at the following addresses:

Dr. Al Kowitz, Chairman
Communications Studies Department
California State University at Sacramento
Sacramento, California 95818
916-454-6688

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Stanford University
Stanford, California 94303
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Appendix A

Permission Letter

(Name of school district deleted to preserve confidentiality)

Dear Parent:

This is to let you know that your child is one of a cross section of 300 students who have been selected at random to participate in a Sacramento State College study, unless you prefer otherwise.

The study came about because children today are exposed to information about drugs in varying degrees and in many ways. Some of the information they receive is accurate, some is distorted, some is simply false. Some of the information comes from knowledgeable adults such as doctors and law enforcement agencies; some from teachers, parents, and other adults; some from other students and friends.

The purpose of this study is to determine from a cross section of students chosen at random: 1) how much information they have about drugs, and how accurate it is; 2) where they got this information; 3) which sources of such information have the greatest influence on youngsters.

The administration of the (name withheld) District has permitted this study because it believes that the results can ultimately help in the ongoing fight against drug abuse.

Here's how the study will work:

Each of the 300 students will participate--if he or she is willing--in a ten-minute interview with a trained senior or graduate student from Sacramento State College. The interviewer will try to determine which of the many sources of information about drugs, if any, the student has been exposed to; and what the student's reaction has been to each source.

The identity of the student--even his or her name--will not be revealed to the interviewer. The information she receives will be taken in a manner that will

guarantee the student's anonymity.

We're letting you know about your child's participation in this study because it is a policy of this district to notify parents of any such study, or any other activity which is not a part of the instructional program. If for any reason you prefer that your child not participate in this study, please call your school principal. If you have any questions about the study, please feel free to call Dr. (name withheld), Evaluation Specialist, who is supervising the manner in which the study will be conducted. Her number is (withheld). You may also contact Dr. Alan Kowitz, who is in charge of this Sacramento State College research project; his number is 454-6688, or 454-6814.

Sincerely yours,

(name withheld)
Research & Evaluation
Department

Appendix B

The Interview Schedule

Interviewer number_____

Subject's grade level 5th_____7th_____9th_____

Subject's sex M_____F_____

1. PLEASE GIVE ME THE NAMES OF ALL THE DRUGS YOU CAN REMEMBER.
   _____Marijuana (Check if mentioned and go to 4)
   _____Number of drugs mentioned

2. DO YOU KNOW OF ANY DRUGS THAT ARE SMOKED?
   _____Yes (Go to 4)
   _____No (Go to 3)

3. HAVE YOU HEARD OF MARIJUANA?
   _____Yes
   _____No (If no, interview is ended. Engage subject to determine is he/she is being evasive.)

4. WHERE DID YOU FIRST HEAR ABOUT MARIJUANA? (Use "pot" or "grass" if they use this term.) THINK BACK AND TRY TO REMEMBER THE VERY FIRST TIME YOU HEARD ABOUT IT AND TELL ME WHERE IT WAS.

_____parents	___movies	_____friends
_____teacher	___TV	_____using mari-
_____minister	___radio	juana
_____doctor	___music	_____siblings
_____policeman	___pamphlets	_____other peer
_____school (specify)	___newspaper	_____other adult
_____	___books	_____other (specify)
_____		_____

5. WHERE ELSE DID YOU HEAR ABOUT MARIJUANA? TRY TO REMEMBER AS MANY PLACES WHERE YOU HAVE HEARD ABOUT IT.

_____parents	___movies	_____friends
_____teacher	___TV	_____using mari-
_____minister	___radio	juana
_____doctor	___music	_____siblings
_____policeman	___pamphlets	_____other peer
_____school(specify)	___newspaper	_____other adult
_____	___books	_____other (specify)
_____		_____

6. HAVE YOU EVER LOOKED FOR OR ASKED FOR INFORMATION ABOUT MARIJUANA?
_____Yes (Go to 7) _____No (Go to 8)

7. WHERE DID YOU GO FOR THE INFORMATION? (If "impersonal" go to 8; if "personal" go to 9; if both go to 11)

_____parents	___movies	_____friends
_____teacher	___TV	_____using mari-
_____minister	___radio	juana
_____doctor	___music	_____siblings
_____policeman	___pamphlets	_____other peer
_____school (specify)	___newspaper	_____other adult
_____	___books	_____other (specify)
_____		_____

8. HAVE YOU EVER LOOKED FOR SOMEONE TO TALK TO OR ANSWER A QUESTION YOU HAD ABOUT MARIJUANA?
_____yes (go to 10) _____no (if no on 6, go to 12)

9. HAVE YOU GONE TO LOOK AT OTHER PLACES FOR INFORMATION ABOUT MARIJUANA?
_____Yes (go to 10) _____No (go to 11)

10. (IF YES TO 8) WE ARE NOT INTERESTED IN SPECIFIC NAMES, BUT GENERALLY WHO DID YOU TALK WITH? (If yes to 9) WHERE DID YOU GO TO LOOK FOR INFORMATION?

_____parents	___movies	_____friends
_____teacher	___TV	_____using mari-
_____minister	___radio	juana
_____doctor	___music	_____siblings
_____policeman	___pamphlet	_____other peer
_____school (specify)	___newspaper	_____other adult
_____	___books	_____other (specify)
_____		_____

11. (This question applies to both 7 and 10) DID YOU THINK _____ (specify source) WAS RELAYING ACCURATE OR INACCURATE INFORMATION? (Repeat for each source mentioned; place an "A" for accurate and "I" for inaccurate in the appropriate blank.)

12. WHAT DO YOU KNOW ABOUT MARIJUANA?
___a drug
___evaluates (good)
___evaluates (bad)
___describes harmful psych-physical effects
___describes beneficial psycho-physical effects

___illegal
___appearance and methods of use
___other (specify)
_____

13. DO YOU THINK THERE ARE GOOD AND BAD REASONS FOR USING MARIJUANA?
___both ___only good ___only bad

14. WHAT ARE THEY?
___illegal
___social pressures-pro (specify type) _____
___social pressures-con (specify type) _____
___psychological gratification
___psychological pain
___physical gratification
___physical pain
___addiction
___nothing happens
___other (specify)
_____

15. IN WHAT WAYS DID YOU LEARN THESE THINGS ABOUT MARIJUANA?

_____parents	___movies	_____friends
_____teacher	___TV	_____using marijuana
_____minister	___radio	
_____doctor	___music	_____siblings
_____policeman	___pamphlets	_____other peer
_____school (specify)	___newspaper	_____other adult
_____	___books	_____other (specify)
_____		_____

16. WHICH OF THESE SOURCES WERE PRO-MARIJUANA AND WHICH WERE ANTI-MARIJUANA? (Mark a "P" for pro and "A" for anti in the appropriate blank)

17. WHAT IS YOUR OVERALL FEELING ABOUT MARIJUANA?
___approve ___disapprove ___undecided

18. IF YOU WANTED TO TRY MARIJUANA WOULD YOU KNOW WHERE TO GET IT?
___yes ___no (go to 21)

19. HAVE YOU EVER HAD THE OPPORTUNITY TO TRY MARIJUANA?
___yes ___no

20. HAVE YOU EVER TRIED MARIJUANA?
___yes (go to 27) ___no (go to 21)

21. WOULD YOU EVER TRY MARIJUANA IF YOU HAD AN

OPPORTUNITY? WOULD YOU LIKE TO TRY IT?
___yes (go to 27 and then stop)
___no (go to 23)

23. WHY NOT?
___illegal
___social pressures-pro (specify type) _____
___social pressures-con (specify type) _____
___psychological pain
___psychological gratification
___physical gratification
___physical pain
___addiction
___nothing happens
___other (specify)
_____

25. WHAT THINGS, PEOPLE, OR EXPERIENCES MADE YOU DECIDE NOT TO TRY MARIJUANA?

_____parents	___movies	_____friends
_____teacher	___TV	_____using mari-
_____minister	___radio	juana
_____doctor	___music	_____siblings
_____policeman	___pamphlets	_____other peer
_____school (specify)	___newspaper	_____other adult
_____	___books	_____other (specify)
_____		_____.

26. WHAT WAS IT ABOUT _____(specify source) THAT KEPT YOU FROM TRYING MARIJUANA? (Repeat for each of the responses in 25 and check following)
___illegal
___social pressures-pro (specify type)_____
___social pressures-con (specify type)_____
___psychological gratification
___psychological pain
___physical gratification
___physical pain
___addiction
___nothing happens
___other (specify)
_____

END OF INTERVIEW

27. WHAT THINGS, PEOPLE, OR EXPERIENCES LED YOU TO DECIDE TO TRY MARIJUANA?

___parents	___movies	___friends
___teacher	___TV	___using mari-
___minister	___radio	juana
___doctor	___music	___siblings

___policeman
___school (specify)
_____
_____

___pamphlets
___newspaper
___books

___other peer
___other adult
___other (specify)
_____

28. HOW WOULD YOU DESCRIBE YOUR EXPERIENCE USING MARIJUANA?
___physical gratification
___physical pain
___psychological gratification
___psychological pain
___nothing happens
___other (specify)
_____

29. WOULD YOU TRY MARIJUANA AGAIN IF YOU HAD A CHANCE?
___yes (go to 30)
___no (go to 31)
___DK (go to 30)

30. WHAT THINGS WOULD LEAD YOU TO TRY IT AGAIN?
(If yes to 29, go to 32)
___illegal
___social pressures-pro (specify type)_____
___social pressures-con (specify type)_____
___psychological gratification
___psychological pain
___addiction
___nothing happens
___other (specify)
_____

31. WHAT THINGS WOULD LEAD YOU NOT TO TRY IT AGAIN?
___illegal
___social pressures-pro (specify type)_____
___social pressures-con (specify type)_____
___psychological gratification
___psychological pain
___addiction
___nothing happens
___other (specify)
_____

END OF INTERVIEW

32. DO YOU FEEL THAT YOU USE MARIJUANA ON A REGULAR BASIS?
___yes (END OF INTERVIEW)
___no (go to 33)

33. WOULD YOU USE MARIJUANA ON A REGULAR BASIS IF YOU HAD THE OPPORTUNITY?
___yes (END OF INTERVIEW)
___no (go to 34)

34. WHY WOULD YOU NOT USE MARIJUANA ON A REGULAR BASIS?
___illegal
___social pressures-pro (specify type)_____
___social pressures-con (specify type)_____
___psychological gratification
___psychological pain
___physical gratification
___physical pain
___addiction
___nothing happens
___other (specify)
_____

END OF INTERVIEW

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